CLAIMS

1. A method for calibrating a communication channel, including a first component, a second component, and a communication link coupling the first and second components, the communication channel having a parameter with an operation value, comprising:

setting the operation value of the parameter of the communication channel in one of the first and second components;

distributing a reference clock signal to the first and second components;

monitoring, using monitor circuits in one of the first and second components, a signal from a medium outside the communication channel, the signal having a characteristic which drifts relative to the reference clock signal at said monitor circuits by amounts that correlate with drift of the parameter of the communication channel, to track the amounts of drift in the characteristic; and

in response to the monitoring, updating the operation value based on the amounts of drift in the characteristic of the signal.

2. The method of claim 1, wherein said updating includes executing a calibration sequence.

3. The method of claim 1, wherein said updating includes adjusting the operation value as a function of the amounts of drift.

4. The method of claim 1, wherein said monitoring includes comparing a phase of the reference clock signal with a phase of said signal.

5. The method of claim 1, wherein said signal comprises a data signal transmission in another communication channel between the first and second components, and said monitoring includes recovering a clock from the data transmission, and comparing said clock with the reference clock signal.

6. The method of claim 1, wherein said signal comprises a control signal transmission in another communication channel between the first and second components.

7. The method of claim 1, wherein the parameter comprises a drive timing point for a transmitter on the first component.

8. The method of claim 1, wherein the monitoring circuits are on the first component, and the parameter comprises a drive timing point for a transmitter on the first component.

9. The method of claim 1, wherein the monitoring circuits are on the first component, and the parameter comprises a sample timing point for a receiver on the second component.

10. The method of claim 1, wherein the monitoring circuits are on the first component, and the monitored signal is transmitted by the second component.

11. The method of claim 1, wherein the monitoring circuits are on the first component, and the monitored signal is transmitted by the first component.

12. The method of claim 1, wherein the monitoring circuits are configured for monitoring first signals transmitted by the first component and second signals by the second component, and including logic to select the monitored signal from one of the first signals and second signals.

13. An apparatus coupled with a communication channel, the channel including a first component, a second component, and a communication link coupling the first and second components, the communication channel having a parameter with an operation value; comprising:

memory in one of the first and second components to store the operation value of the parameter of the communication channel;

a reference clock;

monitor logic in one of the first and second components to monitor a signal outside the communication channel, that has a characteristic which drifts relative to the reference clock by amounts that correlate with drift of the parameter of the communication channel relative to the reference clock, to track the amounts of drift in the characteristic; and

logic, responsive to the monitoring, to update the operation value based on the amounts of drift.

14. The apparatus of claim 13, wherein said logic to update includes logic to execute a calibration sequence.

15. The apparatus of claim 13, wherein said logic to update includes logic to adjust the operation value as a function of the drift.

16. The apparatus of claim 13, wherein said monitor logic includes a phase comparator to compare a phase of the reference clock with a phase of the signal.

17. The apparatus of claim 13, wherein said signal comprises a data signal transmission in another communication channel, and said logic to monitor includes a data/clock recovery circuit to recover a clock from the data transmission in the other communication channel, and to compare said clock with a reference clock signal.

18. The apparatus of claim 13, wherein said signal comprises a control signal transmission in the communication channel.

19. The apparatus of claim 13, wherein the parameter comprises a drive timing point for the transmitter on the first component.

20. The apparatus of claim 13, wherein the parameter comprises a sample timing point for the receiver on the second component.

21. The apparatus of claim 13, including logic to execute a calibration sequence to determine the operation value, and store the operation value in said memory.

22. The apparatus of claim 13 wherein said communication channel comprises one of a plurality of communication channels of a communication bus, and said signal is carried on a communication channel that comprises one of plurality of communication channels in the communication bus.

23. The apparatus of claim 13 wherein said communication channel comprises one of a plurality of communication channels of a communication bus, and said signal is carried on a communication channel that comprises another one of plurality of communication channels in the communication bus, and the signal comprises a data strobe.

24. The apparatus of claim 13 wherein said communication channel comprises one of a plurality of communication channels of a communication bus, and the signal is carried on a communication channel that comprises another one of plurality of communication channels in the communication bus, and the signal comprises a timing reference signal generated by one of the first and second components on the communication channel.

25. The apparatus of claim 13, wherein the monitoring logic is on the first component, and the monitored signal is transmitted by the second component.

26. The apparatus of claim 13, wherein the monitoring logic is on the first component, and the monitored signal is transmitted by the first component.

27. The apparatus of claim 13, wherein the monitoring logic is configured for monitoring first signals transmitted by the first component and second signals by the

second component, and including logic to select the monitored signal from one of the first signals and second signals.

28. An interface for a communication bus, comprising:

a plurality of input/output drivers coupled with respective bi-directional links in the communication bus, the input/output drivers including

a transmitter, responsive to a transmit clock, which drives a signal on a corresponding link in the communication bus;

a receiver, responsive to a receive clock, which samples a signal on the corresponding link;

a transmit clock generator coupled to the transmitter and to a reference clock having a frequency over 100 MegaHertz, which generates the transmit clock;

a receive clock generator coupled to the receiver and to the reference clock, which generates the receive clock, wherein at least one of the transmit clock generator and the receive clock generator is adjustable in response to a phase control signal; and

a drift tracking circuit, coupled to a link carrying a monitored signal that is characterized by drift relative to the reference clock that correlates with drift of parameters in the communication bus relative to the reference clock, the drift tracking circuit including

a phase detector to track changes in phase between the reference clock and the monitored signal, and

logic to monitor the changes in phase, and issue an indication that the phase control signal, for said at least one of the transmit clock generator and the receive clock generator, be updated to account for the changes in phase.

29. The interface of claim 28 wherein said link carrying a monitored signal comprises one of the links in the communication bus and the monitored signal comprises a data strobe on the link.

30. The interface of claim 28 wherein said link carrying a monitored signal comprises one of the links in the communication bus and the monitored signal comprises a timing reference signal generated by a device coupled to the link.

31. The interface of claim 28, wherein said link carrying a monitored signal comprises one of the bi-directional links in the communication bus, and the monitored signal comprises a data signal on the bi-directional link.

32. The interface of claim 28, wherein said link carrying a monitored signal comprises one of the bi-directional links in the communication bus, and the monitored signal comprises a control signal on the bi-directional link.

33. The interface of claim 28, wherein said link carrying a monitored signal comprises a link emulating a bi-directional link in the communication bus.

34. The interface of claim 28, wherein said receive clock generator comprises a phase-locked loop, coupled to the reference clock, and producing a set of frequency divided output clocks, a mixer, responsive to the phase control signal and the set of frequency divided output clocks, to generate the receive clock, and memory storing a value of the phase control signal.

35. The interface of claim 28, wherein said transmit clock generator comprises a phase-locked loop, coupled to the reference clock, and producing a set of output clocks, a mixer, responsive to the phase control signal and the set of output clocks, to generate the transmit clock, and memory storing a value of the phase control signal.

36. The interface of claim 28, including calibration logic to determine a value of the phase control signal, and wherein said calibration logic is responsive to said indication to re-calibrate the value of the phase control signal.

37. The interface of claim 28, including logic responsive to said indication to adjust a value of said phase control signal based on said detected changes in phase.

38. The interface of claim 28, wherein the phase detector detects the phase between the reference clock and the monitored signal in response to a phase difference between one of the receive and transmit clocks, and the monitored signal.

39. The interface of claim 28, including a tracking clock generator coupled to the phase detector and to the reference clock which generates a tracking clock, and wherein the phase detector detects the phase between the reference clock and the monitored signal in response to a phase difference between one of the tracking clock and the monitored signal.

40. The interface of claim 28, including memory to store a transmit phase control signal for the transmit clock generator and to store a receive phase control signal for the receive clock generator.

41. The interface of claim 28, wherein the monitored signal is transmitted by a remote component.

42. The interface of claim 28, wherein the monitored signal is transmitted at the interface.

43. The interface of claim 28, wherein the drift tracking circuit is configured for monitoring first signals transmitted by the interface and second signals transmitted by a remote component, and including logic to select the monitored signal from one of the first signals and second signals.

44. A method for calibrating a communication channel, including a first component, a second component, and a communication link coupling the first and second components,

the communication channel having a parameter with an operation value determined by calibration, comprising:

setting the operation value of the parameter of the communication channel in one of the first and second components;

supplying from the first component, a monitor signal on a channel which loops back to the first component;

monitoring, using monitor circuits in the first components, a signal from a medium outside the communication channel, the signal having a characteristic which drifts relative to the reference clock signal at said monitor circuits by amounts that correlate with drift of the parameter of the communication channel, to track the amounts of drift in the characteristic; and

in response to the monitoring, updating the operation value based on the amounts of drift in the characteristic of the signal.

45. A method for calibrating a communication channel, including a first component, a second component, and a communication link coupling the first and second components, the communication channel having a drive timing point with an operation value determined by calibration, comprising:

setting the operation value of the drive timing point of the communication channel;

monitoring a signal from a medium outside the communication channel, the signal having a characteristic which drifts by amounts that correlate with drift of the drive timing point of the communication channel, to track the amounts of drift in the characteristic; and

in response to the monitoring, updating the operation value based on the amounts of drift in the characteristic of the signal.

46. A method for calibrating a communication channel, including a first component, a second component, and a communication link coupling the first and second components, the communication channel having a drive timing point with an operation value determined by calibration, comprising:

setting the operation values of the drive timing point and sample timing point of the communication channel;

monitoring a signal from a medium outside the communication channel, the signal having a characteristic which drifts by amounts that correlate with drift of the drive timing point and sample timing point of the communication channel, to track the amounts of drift in the characteristic; and

in response to the monitoring, updating the operation values of the drive timing point and sample timing point based on the amounts of drift in the characteristic of the signal.